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REPORT

ON

RIVER BONAVENTURE

River **TIMBER LIMITS**

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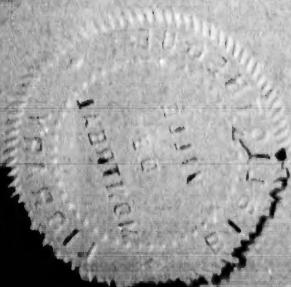
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REPORT

OF

AN EXPLORATION OF CERTAIN TIMBER LIMITS

SITUATED ON THE RIVER BONAVENTURE, BAIE DES CHALEURS,
PROVINCE OF QUEBEC, CANADA

Quebec, December 24th, 1889.

SIR,

Early in October, according to your instructions, I left Quebec, to explore your timber limits lying along both sides of the Grand River Bonaventure. I took one man with me, an expert in all details of lumbering operations, and on arriving at Bonaventure, engaged two other men with canoe to transport outfit and ourselves from point to point as the exploration called for a shift of locality.

I have ascended and examined the River for about fifty miles above the Baie des Chaleurs, camping for several days at different points and thoroughly exploring the surrounding country along both sides of the main river and

its tributaries and back to the depth at the boundaries of the limits *east* and *west*. This exploration continued with scarcely any interruption, from bad weather or any cause, during October, November and a part of December. It was conducted with great care and, I feel, is thorough, correct and reliable in every respect. I found that with the exception of the extreme lower or south end of the limits, that the whole region is splendidly and uniformly wooded, practically untouched and undevastated by fire, windfalls, &c, a virgin forest, I may call it, of *Spruce*, *Fir* or *Sapin*, *Pine*, *Cedar*, *Balm of Gilead*, *Bouleau* or *Canoe Birch*, *Red* and *White Birch*, with some *Tamarac*, *Ash*, *Maple* and *Cypress* or *Grey Pine*. The timber is of unusual average size, length and quality and in soundness is *wonderfully* good.

Spruce.—Is of such a size, diameter and length, (young or undersized Spruce being in smaller proportion than I have generally found it elsewhere) as to yield 3 or 4 logs standard logs $13\frac{1}{2}$ ft x 14 inch, per tree below branches, the smaller end of the last or highest logs giving 14 inch diameter, and in very many cases 80 logs would give or equal 100 standard logs, and 30% of first quality. A defective tree, from any cause, is so rare that one is not met in a day's march. I have put, as a low estimate of the quantity of *spruce*, 12,000 logs per square mile, equal to about 20 logs $13\frac{1}{2}$ ft x 14 inch average to the square acre.

Fir or Sapin.—Is also of *unusual size and soundness*, and is of the *best variety*, known as the *white sapin* or *fir*, and is frequently as large as the Spruce, tho' not so long, giving fewer logs per tree. This wood, I feel sure when fairly put on the market and better known, will command a price

nearly, if not fully, equal to Spruce. It is a fine wood, and on these limits of exceptional size, soundness and quality. I have put the quantity at about one third that of the Spruce, say : 4,000 to 5,000 *logs*, $13\frac{1}{2}$ ft \times 14 in average, per square mile, *this is a low count*.

Pine.—Is about the only variety of timber that has ever been cut. Formerly, say 40 or 50 years ago, it must have been fairly plentiful and good, and even to-day there is still a considerable quantity of good standing Pine which will give an average size of 18 inches, logs $12\frac{1}{2}$ ft long. I have put the *total* quantity of *logs* at about 175,000 $12\frac{1}{2}$ ft \times 18 in. average.

Cedar, white variety.—Is found in immense quantity ; large size, reaching 50 to 60 inches diameter, and of a soundness unsurpassed anywhere, the quantity is inestimable, roughly, I put it at 7,000,000 *logs* of $12\frac{1}{2}$ ft \times 24 inch average.

Bouleau or Canoe Birch.—Is also met in great quantity all over the limits, of a large average size, long and notably sound, I put the total quantity at about 5,000,000 logs $12\frac{1}{2}$ ft and 15 inch average.

White and Red Birch.—This description of timber is not found in great quantity, of a size to square down to 14 inch, it is, however, of excellent quality and sound. I have put the total quantity on the limits, at say 500,000 logs $12\frac{1}{2}$ ft \times 15 inch average.

Balm of Gilead or Balsam Poplar.—Is found growing along a strip of varying width or depth on both banks of the main river and all its tributary water courses, it is of

large average size, sound fine quality, and I have placed the total quantity at 200,000 logs $12\frac{1}{2}$ ft + 18 inch average.

Tamarac.—But little of this sort of timber is found, and only on the 1st *East* branch or fork, for a short distance on both banks, did I meet it of a size or in quantity to merit notice. It is of good quality and sound. I have put the total quantity at 1,700 pieces, of 25 feet average lenght and will flat to 9 inch face.

Ash.—This wood I found only on the slopes of the mountain to the south and east of the *great bend*, is excellent in quality, and sound and large average size. I have put the quantity at 1000, to 1200 logs $12\frac{1}{2}$ ft + 12 in average.

Cypress or *grey pine*.—Found along main river to the east, and between the Duval and Hall Rivers, 1,000 logs $12\frac{1}{2}$ ft \times 12 inch average.

Maple.—This timber is found in pretty fair quantity and size to the east of the head of Hornsinger's brook, on the higher grounds and also near the head of Hall's river, is of very good quality.

I will state that the Physical features of the country present no obstacles to the making and getting out of timber, no where will the hauling be of great length, not to exceed four miles to put the logs on the main river or one of its *drivable* tributaries (and by the way the limits contain within their boundaries and control all the water courses.) The character of the most part of the limits is mountainous, but every where intersected by good valleys at short intervals, and more or less extensive lower lying lands which, denuded of their timber, would be simply

a rolling or undulating country. *Generally* the country is too rough, rocky and mountainous to ever be used for agricultural purposes; but here and there, one meets with suitable sites for supply depots, where exist spaces of greater or less extent, with good soil upon which farms could be opened in connection with the lumbering operations. This is principally noticeable along the north and south of the great bend. And I think I may safely remark that, as far as my knowledge (which is somewhat extended) goes, there is nowhere in the Province of Quebec, anything to equal, much less surpass, the timber limits of the Grand Bonaventure for richness and for the extraordinary fine facilities for working and consequent economy, in every detail. As a source of lumber supply the valley of the River Bonaventure in which lay your limits, excels anything I have seen in this province, north or south of the River and Gulf St. Lawrence.

All lumbering operations could be carried on under the most advantageous conditions, the distances by land or water are small, indeed are insignificant, as compared to the remoteness of the forest in other parts of the Province, the length, the roughness, dangerous nature of the rivers and drives, the long hauling &c., for getting out logs, even in cases where woods of rather inferior quality is obtained. All these drawback are absent from operations on your limits, in fact all is reversed, and we have here the most favorable conditions, we need seek our timber only a very few miles from the seaboard. In connection with these limits are fine Mill sites, at or near the discharge of the Bonaventure into the inlet or Barachois, which latter

affords splendid and safe holding grounds and ponds for *hundreds of thousands* of logs, with deep water lot for wharf &c.

I will now speak of the *Main river and its drivable tributaries*. I cannot possibly express myself too strongly as regards the unequaled excellence and facilities offered by the main river Bonaventure throughout its entire length, for driving timber of any length ; it is impossible to imagine one better, a river of a uniform, strong, even a rapid current, all along its course. Alternating short reaches of rapid or broken water with longer intervals of smoother water where, however, there is always a current of five to seven miles, good depth of water even at the season of lowest stage, (and, I imagine, that in *ordinary seasons*, it could with *care* be driven all summer long.) The banks are everywhere of good height, the water of crystal clearness, running over a strong or rock bottom, is very hard owing to the calcareous nature of the stone and rock, all being coated with this deposit or lined and impregnated with it. Leaving the Barachois or inlet at the Baie and following (in canoe as I did) its course up north for near fifty (50) miles, one encounters not a single impediment, *absolutely* no clearing or repairs required, consequently no expense. There is not, in my opinion, (and in this I am sustained by my assistant, an old experienced and practical man, a voyageur and lumberman in all capacities for over 30 years) anywhere in this province, flowing into the River or Gulf of St. Lawrence from the north or south, a river that can be compared to the Bonaventure, over its whole course, which at its mouth, offers su-

perior facilities for safe holding of many hundred thousands logs &c., fine sites for Mill &c., deep water lot, &c., offering *very superior advantages* for the shipping of sawed lumber to foreign countries or to the sea-board cities of the United States. It lies several hundred miles, nearer to all these ports than the City of Québec, and shipping can be continued perhaps six or eight weeks later in the season than at Quebec. These limits are on the Gaspé Peninsula in the county of Bonaventure, Province of Quebec, the mouth of the river is only 10 or 12 miles to the west of New Carlisle, the county seat, and Pasbebiac a great fishing station and port and practically an *open* port in winter, on the Baie des Chaleurs. There will, also very soon be completed a line of Railway running along the coast and connecting with the Intercolonial Railway and will pass near by the Mill sites, thus giving communication inland.

Now, touching the *drivable* tributaries, I will begin with the *Hall river* which is the first above the Baie (about 5 miles) coming in to main river from the *East*. Is a fine little stream, would require some clearing, and close watch on the drive, which, however, would be *short*, not exceeding 8 or 10 miles.

About five or six miles above the Hall River, the *Duval river* discharges also from *East*, it is also a drivable stream, it needs clearing of jams of drift wood, and attention to drive, which would possibly be 10 miles, at the most, as with short hauling, this driving distance would be reduced considerably.

At about $2\frac{1}{2}$ miles further up, we come to *Deep Creek* running also from the *East*. Is drivable but needs clearing of old jams, it has *two branches*, the upper part is cleaner than near its discharge in the main river.

About seven (7) miles above, we reach the mouth of the 1st *West* fork or branch. This is a good little stream, but obstructed by the work of the beaver, about $\frac{1}{2}$ or $\frac{3}{4}$ of a mile above its mouth. It needs clearing and close watch on the short drive of 6 or 8 miles.

At the other extremity of the *Great Bend*, some 5 miles, the *first East branch* comes in. It is a fine little stream wider, clearer than the 1st *West* branch, however being somewhat flatter, and with battures putting out from the shores, it would require good attention during the short drive of about 8 miles.

About ten (10) or twelve (12) miles above 1st *East* fork we have the 2nd or *principal west* branch. This stream is in all respects equal to the main river below the confluence, its current and volume dominate the stream called the main river, which latter above the meeting is very much contracted, and rougher, but I believe is longer and is considered the principal stream and so marked on plans.

I give further on, a statement of the quantities of standing timber (each variety), in *logs*, their dimensions, turn out in feet Board measure, per log, total feet B. M. average selling price per 1000 ft. B. M. and total value of the sawed produce, also the average turn out from Spruce logs in actual experience, per 1000 feet Board measure, 30%, 1st quality, which latter is a low estimate, for this Spruce will probably

give 33½ % first quality. The *quantities* are based on the whole extent of the limits, which contain about 400 *square miles*, and this estimate is in no way exaggerated, *but always under estimated*.

I also state, in tables at the end of this report, the probable cost of making, hauling out, driving logs to Mills, Sawing, Shipping, Salaries, &c, all Government dues and charges, and I place all these expenses at from $\frac{3}{4}$ to $\frac{7}{8}$ of the value or selling price of the produce of the mills. Finally the net profit on a cut of 200,000 logs of *Spruce, alone*, valued @ \$10 average per 1000 ft. B. M. for 20,000,000 ft. \$200,000, deduct say $\frac{7}{8}$ for cost \$140,000, there remains \$60,000 profit on this wood alone for the one season. It will be clearly seen how very valuable these limits are or would be when worked with judgment and experience, and all the more that this very Spruce lumber is eagerly sought for throughout this province and elsewhere, is growing scarcer and commanding a higher price year by year, and to-day *first* quality *Spruce* per 1000 feet. Board measure, approaches the price of merchantable Pine, very nearly. These limits should be opened up and worked *at once* and, I am confident would pay a *rich return*, not less than 20 % (twenty per cent) on the investment of capital, if intelligently and systematically worked. All preliminary work, getting out of timber for Mills, booms, dams, Piers, &c, at the mouth of the river and on the Baie des Chaleurs, cutting out of supply roads, selection and placing of logging camps, &c, &c, could be carried on and completed in the course of the coming summer, the logs should all be made by the end of December. After this there will

be the hauling out to main river or drivable streams and later on, the short and easy, inexpensive drive to the Mills

In conclusion, I will reiterate that no finer forests are to be found in this province, than these of the Bonaventure river. These forests cover a large area, and would furnish material for a long period of years for extensive lumbering operations. The *Spruce* itself at a yearly cut of 200,000 logs will furnish timber for 25 years, as the smaller trees increase quite rapidly in girth, say $\frac{1}{2}$ to $\frac{3}{4}$ inch per annum. *All operations* could be carried on under the most advantageous conditions that it is possible to imagine. Many lumbering firms in this province and elsewhere, spend immense sums in transporting all supplies, provisions &c., for their shanties and this through regions difficult of access, sometimes for hundreds of miles, and drive rivers and streams (also hundreds of miles) every river of which need untiring watch, and months of uncertain dangerous work for large gangs of men, besides all the repairs of works such as dams, slides &c., required to keep the worse parts of these streams drivable, all these troubles and sources of expense are conspicuously absent from lumbering operations in the forests and streams of the Grand Bonaventure River.

I will now state the result of my observations on an examination of the Islands and Battures or shoals lying at or near the mouth or discharge of the River Bonaventure into the Inlet or Barachois (as it is called) on the Baie des Chaleurs, also of the *Easterly* part of this Barachois, In company with my assistant *Timothé Goudreault* who is eminently a *practical* man, versed in all the details of construction of the works required by the nature of

the shores, the proposed mill site, &c., &c., such as Dams, Booms, Piers, Wharves as well as the necessary buildings. I made a close and careful examination of all the country in the immediate vicinity and bordering the River and Inlet, and will now give our opinion as to the nature and approximate extent of the works required, in case the Saw mill and other buildings should be erected on the point or spit separating the Inlet or Barachois from the waters of the Baie des Chaleurs. There would be two methods by which the timber, logs &c., could be held and brought to the mills for sawing and shipment.

Firstly.—By holding the logs &c. in booms above the Bridge forming the river crossing of the Highway or main road over the Bonaventure not far above its mouth, at what is called the Rigolette à la Truite, but which is really the extreme *East Channel* of the River formed by the islands (five in number) and would afford a pond or holding ground of large capacity, and *still water*, while the main or extreme *West Channel* has too strong a current, no boom could be placed there to hold against the pressure of a large quantity of logs. The head of the rigolette or *East* channel is at present partially closed by a jam formed by drift wood, between the head of the upper island and the main east shore, this could be removed without difficulty or expense, and a good main boom firmly anchored at or to the pier built on the head of this uppermost island, and following the drift or course of the current, stretch this boom over to a point on the main *west* shore, as near as I could judge, having no means at hand for measurement, this distance would be 1200 to 1500 feet more or less, low piers project-

ing above high water (the *tide* running in here) would be required at say, each 300 or 400 feet of this distance as support to the booms. I noticed that the current flows naturally right into the rigolette, so there would be the least possible strain and pressure on the boom when the logs were coming down, no matter how large a number. A second or retaining boom across the lower end of the rigolette and near and above the *east* span of the Highway Bridge, would hold the logs in this basin or pond, whence they could be sent at each *Tide*, in pocket booms, down to the Mill ponds.

Secondly : By booming *above* this rigolette or channel, as I have described, and placing *no* lower retaining boom, in this way run the logs direct into a large pond formed by damming *across* the East Barachois from the lower end of a bank or ledge, (extending out from the lower islands) to a point selected on the spit or neck of gravel separating the waters of the Baie des Chaleurs from those of the Barachois, this Dam would make an angle (obtuse) at the lowest end of the bank, the portion built on or along this bank would be a foot or two less high, thus a sufficient depth of water (say 3 or 4 feet) would always be had inside to float the timber logs, &c., a good boom being attached all along the top of the Dams so that when the water rose to run over the Dams the booms would float and prevent anything going over. The upper end of both boom and dams would be secured at the lower end of the rigolette. The total length of these dams and booms (each) will be approximately 1600 to 1800 feet. All the timber for the construction of these Piers, Dams, Booms, &c., can be had from the lands lying above on the River *close* to the banks, and but a *few miles* from the works, and can be brought by water direct to the ground.

In concluding this report I would call your attention to the annexed table or synopsis of the approximate quantity of each variety of wood found on these limits, at a *low* estimate, with further information as to average turn out from spruce logs in actual experience per 1,000 ft B. M. 30% first quality and *probable* cost, *counting all expenses*, of manufacture &c., of 200,000 Spruce logs and net profits resulting from sale of produce.

Accompanying this report will be found a plan shewing the extent and boundaries of the Timber Limits lying along both banks of the Bonaventure river, in connection with the Barachois or Inlet through which the river discharges into the Bay or Ocean. Also a separate plan, on a larger scale, of the Barachois, Beach lot, Deep water lot, &c. And finally a map exhibiting the Ocean lines of communication with England and the coast-wise cities of the United States, as far south as New-York.

Respectfully submitted,

J. BENSON WILLIAMS, C. E.

Explorer in charge.

TIMOTHÉ GOUDREAU LT,

Assistant Explorer and expert.

To

L. A. ROBITAILLE, ESQ.

Quebec,

P. Q.

STATEMENT shewing quantity of each variety of standing timber in logs, their content in feet Board Measure per log, and totals, also average selling price per 1000 ft B. M. from actual turn out. Spruce and Fir, as $13\frac{1}{2}$ ft x 14 in. average, all others as $12\frac{1}{2}$ ft x 12 in. and up.

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Variety of Timber.	Number of Logs.	Dimension of Logs.	Content of each Log ft. B. M.	Total feet Board Measure.	Average price per 1000 ft. B. M.	Total value of produce.
Spruce.....	4,500,000	13 $\frac{1}{2}$ ft x 14 in.	100	450,000,000	\$10 00	\$4,500,000
Sapin or Fir	1,500,000	13 $\frac{1}{2}$ ft x 14 in.	100	150,000,000	8 00	1,200,000
Pine.....	175,000	12 $\frac{1}{2}$ ft x 18 in.	160	28,000,000	20 00	560,000
Balm of Gilead	200,000	12 $\frac{1}{2}$ ft x 16 in.	120	24,000,000	6 00	144,000
Cedar.....	7,000,000	12 $\frac{1}{2}$ ft x 24 in.	300	2,000,000,000	10 00	20,000,000
Bouleau or Canoe Birch.....	5,000,000	12 $\frac{1}{2}$ ft x 15 in.	100	500,000,000	8 00	4,000,000
Birch, white and red	500,000	12 $\frac{1}{2}$ ft x 15 in.	100	50,000,000	7 50	375,000
Tamarac	1,700	25 ft x 10 in.	100	170,000
Ash.....	1,000	12 $\frac{1}{2}$ ft x 12 in.	60	60,000
Cypress.....	1,000	12 $\frac{1}{2}$ ft x 12 in.	60	60,000
Maple	40,000	12 $\frac{1}{2}$ ft x 12 in.	60	240,000

AVERAGE turn out from Spruce logs in actual experience per 1000 feet Board Measure 30%
 1st quality.

	Deals.....	300 feet	a \$44 per 100 Standard Deals = \$16 00 per 1000 feet	= \$4 80
1st quality.....	Deals.....	300 feet	a \$44 per 100 Standard Deals = \$16 00 per 1000 feet	= \$4 80
2nd " "	"	370 "	27 "	" 10 00 "
3rd " "	"	200 "	22 "	" 8 00 "
Culls.....	"	50 "	10 "	" 3 60 "
Boards.....	"	80 "	" 6 00 "
				48
				1000 feet
			Average on turn out per 1000 feet B. M. \$10 76	

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Probable cost of making, hauling out, driving, sawing, shipping, salaries of employees, Government dues, &c, may be calculated @ from $\frac{3}{4}$ to $\frac{7}{10}$ the value or selling price of the produce of Mills.

On a cut of 200,000 Spruce Logs = 20,000,000 ft B. M. valued @ \$200,000 deduct say $\frac{7}{10}$ or \$140,000 for cost, there remains a clear profit of \$60,000 on this wood alone.

J. BENSON WILLIAMS, C. E.

To L. A. ROBITAILLE, Esq.,
 Quebec, P. Q.